REMARKS

The Office Action mailed March 20, 2007 has been received and reviewed. This amendment is directed toward that Office.

Claims 1-41 are pending and were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner states that the means for controlling the rate of compression in claim 1 is not understood. Claim 3 states that the pressure of natural gas controls the rate of compression and the distribution of compressed gas and the flow of compressing liquid into the compressor, but it is not understood how. The examiner requests that applicant point out the area of the specification that sets forth the means for controlling the rate of compression.

One means by which the inlet pressure controls the rate of compression is when the first stage reaches the "desired interstage pressure" (SPECIFICATION line 5, page 7). The means is disclosed in FIGURES 4 and 7 and the accompanying SPECIFICATION text describing the role of the DIRECTIONAL CONTROL VALVE (428, 752), the DIRECTIONAL CONTROL PILOT VALVES (452, 454, 842, 844) and second-stage INLET VALVE (420) therein. The inlet pressure controls the distance the first-stage piston moves before the first-stage pressure reaches said desired interstage pressure (obviously, the greater the inlet pressure, the shorter the stroke). Since the second stage piston always travels full stroke, the inlet pressure controls the rate of compression of the compressor by controlling the length of the stroke of the first stage piston (obviously, the shorter the stroke, the greater the frequency). This control is manifested in the examples disclosed on SPECIFICATION pages 13-18 (CLAIMS 64-68).

Another means by which the inlet pressure controls the rate of compression is through the INLET CHECK VALVE (414, 728) and the DIRECTIONAL CONTROL VALVE (428, 752). The INLET CHECK VALVE does not admit any gas to the first stage unless the wellhead pressure is sufficient to open said valve. Meanwhile. the DIRECTIONAL CONTROL VALVE recycles hydraulic fluid until the wellhead pressure becomes sufficient to open the INLET CHECK VALVE. Thus, the inlet gas

pressure controls the rate of compression as follows: when the inlet gas pressure is below a threshold pressure, the hydraulic fluid recycling means used by the DIRECTIONAL CONTROL VALVE causes the compressor to "idle" (zero rate of compression) while still pumping hydraulic fluid; when the inlet pressure is above said threshold pressure, the INLET CHECK VALVE admits gas and the compressor begins compressing.

Since liquid occupies space in the compression cylinders, the rate of compression may also be controlled by the composition of the inlet fluids.

Finally, the inlet pressure controls the injection/recovery distribution system as disclosed on SPECIFICATION pages 10-12 and FIGURE 7. As set forth there, a SPRING-LOADED CHECK VALVE (770) sets a necessary condition for recovery (the discharge compressed gas pressure must exceed a manually-set threshold value). However, in addition, the pressure of input gas must also exceed a manually-set threshold value. The sufficiency of the input gas pressure is determined by the settings of a 3-WAY MOTOR VALVE (784), a PILOT VALVE (792) and two MOTOR VALVES (822, 830) as disclosed on SPECIFICATION page 11. If both conditions are met, excess gas is recovered. Moreover, when there is an excess of oil phase or water phase, instrument gas flows through CONTROLLERS (810, 814), and the oil and water phase liquids are injected or recovered. When excess gas is being recovered, excess water and oil phase liquids may be stored using their MANUAL DUMP VALVES (820, 828).

The examiner also rejected claim 3 under 35 USC 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements.

INDEPENDENT CLAIM 1 has be rewritten to limit it to multi-stage compressors. As described above, applicant believes that the SPECIFICATION fully discloses how natural gas inlet pressure (and wellhead fluid composition) controls distribution and compression rate in his multi-stage compressor. CLAIMS 2-4, 8, 10, 12-15 depend on CLAIM 1.

INDEPENDENT CLAIMS 42, 44, and 69 are new. Claim 42 and its dependent CLAIM 43 are for a HEC used in conjunction with a BPU. Claim 44 is for Applicant's novel multi-stage compressor and its unique ability to pump mixtures of gasses and liquids. Claim 44's dependent CLAIMS 45-47 are for the inlet pressure and fluid

composition control achieved by varying stroke length (as described above). Dependent CLAIM 48 lists elements for the compressing means controlled by inlet pressure as disclosed in FIGURES 4 and 7 and the accompanying text (as explained above). Dependent CLAIMS 35-37 are rewritten to list the essential elements for the compressor "idling" means and now depend on claim 48. Dependent CLAIM 56 lists elements for the distribution control means and also include the limitations of claim 48. New dependent claims 49-55 and 57-68 include the limitations of claim 44; CLAIMS 64, 65, 66, 67, and 68 are disclosed in the SPECIFICATION in EXAMPLES 1, 4, 7, 8, and 9, respectively. CLAIMS 5-7, 9, 11, 16, and 18-31 have been rewritten to include the limitations of claim 48. CLAIM 17 has been cancelled.

The examiner states that claim is not understood, and that it does not appear that applicant has a separate heater, only that the compressor acts as a heater. Applicant thanks the examiner, agrees that claim 39 does not claim a heater, but respectfully disagrees that the compressor merely acts as a heater. The SPECIFICATION discloses that it is the heat of compression that provides the heat, and that the fluids to which said heat of compression are transferred circulate through heat-transferring elements and thereby comprise a heater (for example, by injection through recovery infrastructure in an oil and gas well to heat down hole piping for well maintenance).

INDEPENDENT CLAIM 39 has been rewritten to claim a HEC heater. CLAIM 40 and new CLAIM 72 are dependent on claim 39.

INDEPENDENT CLAIM 69 and its dependent CLAIMS 70 and 71 are for the process of using a compressor capable of pumping liquid/gas mixtures to produce heated liquids and compressed gases from said mixtures.

The examiner also rejected claims 1-4, 22-24, 39 and 40 under 35 USC 102(e) as being anticipated by Coney and claims 1, 3, 4 and 39-41 under 35 USC 102(b) as being anticipated by Cottle. Neither of these patents teach the elements of the multi-state compressor herein.

As described above, applicant believes that the SPECIFICATION fully discloses the inlet pressure control means using variable stroke length and threshold inlet pressure, and the distribution control means to those skilled in the art. To the extent that additional structural elements in the claims may be necessary, applicant believes that the addition of

structural elements (especially in claims 35-37, 48, and 55) achieves that end. Therefore, applicant believes that his claims are now allowable.

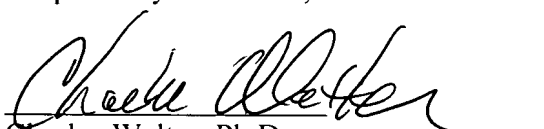
Applicant has amended the specification by adding paragraphs on pages 1 and 3 updating the status of the BPU application (as an issued patent) and the TRS divisional application, a paragraph on page 4 defining internal and external liquids and heat exchange, and an "equivalence" paragraph on page 19 for features and modifications of the disclosed embodiments that should be apparent to those skilled in the art.

Based on the foregoing amendments and remarks, Applicant submits that the present claims are not indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as his invention, nor are they anticipated by the cited references or the prior art. Accordingly Applicant respectfully requests that the examiner withdraw the rejections and objections, allow the claims, and allow this case to proceed to issue.

If any issues remain, the resolution of which may be resolved through a telephone conference, the Examiner is invited to contact Applicant's attorney at the number listed below.

Applicant thanks the Examiner for his helpful comments.

Respectfully submitted,



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